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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,082	03/11/2004	Robert Mergen	MERGEN ET AL 3	5645

7590 09/08/2004

COLLARD & ROE, P.C.
1077 Northern Boulevard
Roslyn, NY 11576

EXAMINER

MORILLO, JANEL COMBS

ART UNIT PAPER NUMBER

1742

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/798,082	Applicant(s) MERGEN ET AL.	
	Examiner Janelle Combs-Morillo	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>031104</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Interpretation

1. Claim 1 states a range within a range, namely, "total of 8.5 % by weight maximum, preferably 3.5 % by weight" (lines 13-14). Additionally, claims 4-6 mention a range within a range i.e. "at least a total of 0.05 % by weight, in particular 0.1 % by weight", etc. Said claims are interpreted by the examiner to be limited to the broad range, and the narrow range is held to be optional.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Desaki et al (US 6,706,126).

Desaki teaches an aluminum bearing alloy comprising (in weight%): 2-20% Sn, $\leq 3\%$ Cu, and $\leq 2\%$ Zr (column 7 lines 17-24), which overlaps the presently claimed alloying ranges of claims 1-6.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility. Therefore

Art Unit: 1742

it is held that Desaki has created a prima facie case of obviousness of the presently claimed invention.

Concerning claims 7-9 and 11-14, Desaki teaches that said bearing alloy can be part of a two or three layer bearing structure (both comprising a backing metal, and wherein the instant alloy is the lining, column 4 lines 35-46), and wherein a coating of resin such as polyimide (PI) or polyamid imide are used with a solid lubricant MoS_2 to prevent seizure (column 4 lines 48-54). Said coating is applied to the lining, and acts as the running layer. The “backing material” and “lining” taught by Desaki are analogous to the instant “protective shell” and “base layer”, respectively. Said resin of PI meets the instant limitations of a layer of plastic (cl. 11), as well as “lubricating varnish” (c. 14).

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Desaki et al (US 6,706,126), as applied to claims above, in view of “ASM Handbook: Vol. 18 Friction, Lubrication, and Wear Technology” (hereinafter “ASM Vol. 18”) pp 741-753.

Desaki does not teach the application of a layer of Pb, Sn, Bi, In, or Cu to said base layer Al-Sn-Zr alloy. However, “ASM Vol. 18” teaches that a thin layer of Sn or Pb can be applied to bearing material systems (see Tables 3 and 4 on p. 747-748), and such bearings “have high tolerances for boundary and thin-film lubrication conditions, and thus can be used under higher loads than can any of the bimetal systems”, p 748, 1st column. It would have been obvious to one of ordinary skill in the art to apply a thin surface layer of Sn or Pb to the base layer taught by Desaki, because “ASM Vol. 18” teaches that said layer allows bearing to be used under higher loads.

Art Unit: 1742

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



GEORGE WYSZOMIERSKI
PRIMARY EXAMINER



JCM

September 6, 2004